

(FILE 'HOME' ENTERED AT 11:36:23 ON 11 AUG 2004)

FILE 'REGISTRY' ENTERED AT 11:36:31 ON 11 AUG 2004

L1 0 S TRIFLUOROMETHYLTRIMETHYLSILANE/CN  
L2 STRUCTURE UPLOADED  
L3 1 S L2  
L4 10 S L2 FUL  
L5 1 S 81290-20-2/RN  
L6 0 S PERFLUORO-2,4-DIMETHYL-3-ISOPROPYL-2-PENTENE/CN  
L7 STRUCTURE UPLOADED  
L8 0 S L7  
L9 1 S L7 FUL  
L10 1 S 72487-70-8/RN  
L11 0 S TRIMER A/CN  
L12 1 S HEXAFLUOROPROPENE TRIMER/CN

FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 11:47:45 ON 11 AUG 2004

L13 631 S L5  
L14 15 S L10  
L15 15 S L9  
L16 7 S L13 AND L14  
L17 4 DUP REM L16 (3 DUPLICATES REMOVED)  
L18 4 S L17 AND L12  
L19 4 S L18 AND HEXAFLUOROPROPENE  
L20 424963 S ?SILANE  
L21 8 S L20 AND L10  
L22 5 DUP REM L21 (3 DUPLICATES REMOVED)  
L23 1 S L22 NOT L19  
L24 33038 S L20 AND ?OLEFIN  
L25 81 S L20 AND PERFLUOROOLEFIN  
L26 36 S L25 AND HEXAFLUOROPROPENE  
L27 19 S L26 AND TRIMER  
L28 17 DUP REM L27 (2 DUPLICATES REMOVED)  
L29 13 S L28 NOT L22

FILE 'REGISTRY' ENTERED AT 12:02:03 ON 11 AUG 2004

L30 STRUCTURE UPLOADED  
L31 STRUCTURE UPLOADED  
L32 STRUCTURE UPLOADED  
L33 2 S L30  
L34 1 S L31  
L35 1 S L32

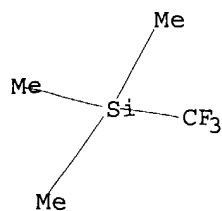
FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 12:05:27 ON 11 AUG 2004

L36 0 S L20 AND L33  
L37 0 S L20 AND L34  
L38 0 S L35 AND L20  
L39 23 S L33  
L40 2 S L34  
L41 2 S L35  
L42 0 S L39 AND L20  
L43 0 S L39 AND L5

=> d l2

L2 HAS NO ANSWERS

L2 STR

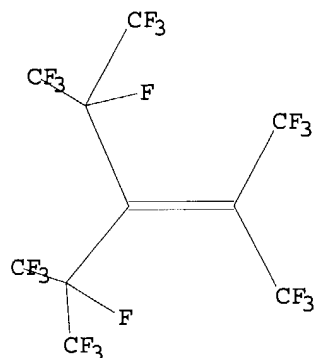


Structure attributes must be viewed using STN Express query preparation.

=> d 17

L7 HAS NO ANSWERS

L7 STR

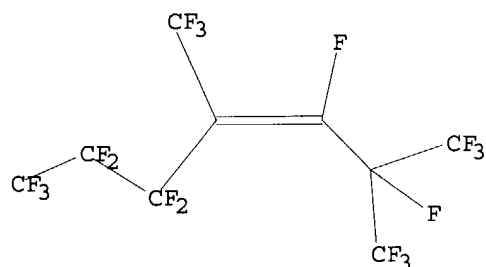


Structure attributes must be viewed using STN Express query preparation.

=> d 130

L30 HAS NO ANSWERS

L30 STR

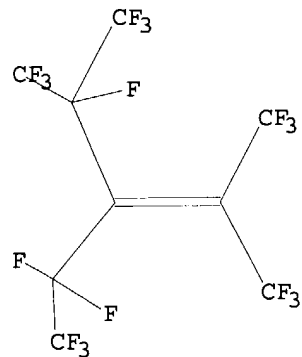


Structure attributes must be viewed using STN Express query preparation.

=> d 131

L31 HAS NO ANSWERS

L31 STR

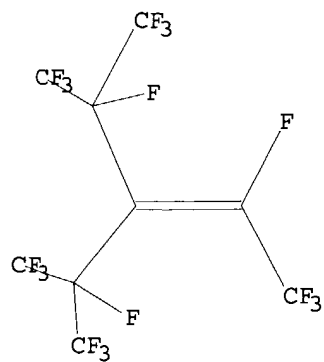


Structure attributes must be viewed using STN Express query preparation.

=> d 132

L32 HAS NO ANSWERS

L32 STR



Structure attributes must be viewed using STN Express query preparation.

L19 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:396498 CAPLUS

DN 138:403324

TI Highly branched perfluoroolefins, super-stable perfluoroalkyl radicals and production methods thereof

IN Ono, Taizo; Nishida, Masakazu; Okazaki, Masaharu; Toriyama, Kazumi; Shimizu, Tetsuo

PA National Institute of Advanced Industrial Science and Technology, Japan; Daikin Industries, Ltd.

SO U.S. Pat. Appl. Publ., 10 pp.  
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003097031	A1	20030522	US 2002-291699	20021112
	US 6710214	B2	20040323		
	JP 2003155257	A2	20030527	JP 2001-352474	20011116
	US 2004127756	A1	20040701	US 2003-685447	20031016
PRAI	JP 2001-352474	A	20011116		
	US 2002-291699	A3	20021112		

OS MARPAT 138:403324

AB The present invention is to provide a method for producing a highly branched perfluoroolefin conveniently in a high yield, a novel highly branched perfluoroolefin, a method for producing a super-stable perfluoroalkyl radical and a novel super-stable perfluoroalkyl radical. The present invention is a production method of a perfluoroolefin which comprises reacting a **hexafluoropropene** trimer with a trialkylperfluoroalkylsilane in an aprotic polar solvent using a fluoride ion as a catalyst. Thus, 1 mmol (450 mg) of a **hexafluoropropene** trimer mixture [containing 10% of perfluoro(3-ethyl-2,4-dimethyl-2-pentene)] whose main component was perfluoro(4-methyl-3-isopropyl-2-pentene) and 1.1 mmol (23.4 mg) of trifluoromethyltrimethylsilane were weighed into a 10-mL fluoro resin-made reaction container, and 1 mL of DMF and 0.3 mmol of acidic potassium fluoride (KHF<sub>2</sub>) were added. A fluoro resin-made magnetic stirrer was placed therein, and the mixture was stirred vigorously for 1 h at room temperature. The transparent lower perfluorocarbon layer was separated into

each component by preparative gas chromatog. (using a column whose mobile phase was Fomblin), and the structure was identified by <sup>19</sup>F-NMR. The yield of a main product perfluoro(2,4-dimethyl-3-isopropyl-2-pentene) calculated on the basis of the ratio of the peak areas in the gas chromatog. using a capillary column (NB-1, 0.25  $\mu$ m, 1.5 mm ID+60 m) was 62.7% by weight

L19 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:386757 CAPLUS

DN 138:385923

TI Method for supplying low-molecular-weight radicals and manufacture of polymers by using the radicals as polymerization catalysts

IN Ono, Taizo; Hayashi, Eiji; Fukaya, Haruhiko; Shimizu, Tetsuo

PA National Institute of Advanced Industrial Science and Technology, Japan; Daikin Industries, Ltd.

SO Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003147008	A2	20030521	JP 2001-352475	20011116
	US 2003114613	A1	20030619	US 2002-291650	20021112

PRAI JP 2001-352475 A 20011116

OS MARPAT 138:385923

AB The method comprises formation of stable perfluoroalkyl radicals from radical carriers and emission of low-mol.-weight radicals from the perfluoroalkyl radicals, wherein the radical carriers are prepared by the radical emission. Thus, reaction of benzene with perfluoro(2,4-dimethyl-3-isopropyl-3-pentyl) (I) gave benzotrifluoride and perfluoro(4-methyl-3-isopropyl-2-pentene), which was reacted with trifluoromethyltrimethylsilane in 1,3-dimethyl-2-imidazolidinone and fluorinated to give I.

L19 ANSWER 3 OF 4 USPTFULL on STN

AN 2004:166266 USPTFULL

TI Highly branched perfluoroolefins, super-stable perfluoroalkyl radicals and production methods thereof

IN Ono, Taizo, Nagoya-shi, JAPAN  
Nishida, Masakazu, Nagoya, JAPAN  
Okazaki, Masaharu, Nagoya, JAPAN  
Toriyama, Kazumi, Nagoya, JAPAN  
Shimizu, Tetsuo, Settsu, JAPAN

PA NATIONAL INSTITUTE OF ADVANCED IND. SCIENCE AND TECH. (non-U.S. corporation)

DAIKIN INDUSTRIES, LTD. (non-U.S. corporation)

PI US 2004127756 A1 20040701

AI US 2003-685447 A1 20031016 (10)

RLI Division of Ser. No. US 2002-291699, filed on 12 Nov 2002, GRANTED, Pat. No. US 6710214

PRAI JP 2001-352474 20011116

DT Utility

FS APPLICATION

LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., SUITE 800, WASHINGTON, DC, 20037

CLMN Number of Claims: 21

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 894

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is to provide a method for producing a highly branched perfluoroolefin conveniently in a high yield, a novel highly branched perfluoroolefin, a method for producing a super-stable perfluoroalkyl radical and a novel super-stable perfluoroalkyl radical.

The present invention is a production method of a perfluoroolefin which comprises reacting a **hexafluoropropene** trimer with a trialkylperfluoroalkylsilane in an aprotic polar solvent using a fluoride ion as a catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 4 OF 4 USPTFULL on STN

AN 2003:166755 USPTFULL

TI Methods for providing low-molecular radicals, radical-carrying molecules, a polymerization catalyst containing them and processes for polymerization and polymers produced thereby

IN Ono, Taizo, Nagoya, JAPAN  
Hayashi, Eiji, Nagoya, JAPAN  
Fukaya, Haruhiko, Nagoya, JAPAN  
Shimizu, Tetsuo, Settsu, JAPAN

PA NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY (non-U.S. corporation)

PI US 2003114613 A1 20030619

AI US 2002-291650 A1 20021112 (10)

PRAI JP 2001-352475 20011116

DT Utility

FS APPLICATION

LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC,  
20037

CLMN Number of Claims: 25

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 916

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is to provide a method for providing a low-molecular radical which comprises releasing a radical having a lower molecular weight from a super-stable perfluoroalkyl-based radical followed by generating the above super-stable perfluoroalkyl-based radical.

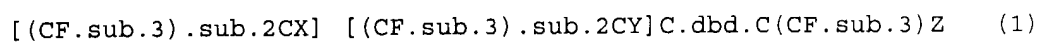
The invention is a method for providing a low-molecular radical which comprises a super-stable radical generating reaction for generating a super-stable perfluoroalkyl-based radical from a radical-carrying molecule and a radical releasing reaction for releasing the low-molecular radical from said super-stable perfluoroalkyl-based radical, said radical-carrying molecule being generated as a result of said radical releasing reaction.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L23 ANSWER 1 OF 1 USPATFULL on STN  
AN 2003:245214 USPATFULL  
TI Perfluoroolefin-hydrocarbon hybrid compound, method of producing the  
same and method of producing perfluoroalkyl radical  
IN Nishida, Masakazu, Nagoya-shi, JAPAN  
Ono, Taizo, Nagoya-shi, JAPAN  
PA NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY  
(non-U.S. corporation)  
PI US 2003171628 A1 20030911  
US 6689923 B2 20040210  
AI US 2003-373113 A1 20030226 (10)  
PRAI JP 2002-62667 20020307  
DT Utility  
FS APPLICATION  
LREP SUGHRUE MION, PLLC, 2100 Pennsylvania Avenue, NW, Washington, DC,  
20037-3213  
CLMN Number of Claims: 16  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 960

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a perfluoroolefin-hydrocarbon hybrid  
compound represented by the following general formula (1):



wherein X, Y and Z may be the same or different, and independently  
represent F or R, excepting that all of X, Y and Z are F, wherein R  
represents straight chain or branched alkyl and aryl groups having from  
1 to 15 carbon atoms. The present invention also provides a method of  
producing the above compound, and a method of producing a perfluoroalkyl  
radical by using the above compound as a starting material.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L29 ANSWER 7 OF 13 USPATFULL on STN  
AN 1999:128690 USPATFULL  
TI Reaction of **perfluoroolefins** with Bis (Silyl) ethers to  
produce fluorinated compounds  
IN Farnham, William Brown, Wilmington, DE, United States  
Nappa, Mario Joseph, Newark, DE, United States  
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States  
(U.S. corporation)  
PI US 5969074 19991019  
AI US 1993-64575 19930521 (8)  
RLI Division of Ser. No. US 1991-645030, filed on 23 Jan 1991, now patented,  
Pat. No. US 5243025 which is a continuation-in-part of Ser. No. US  
1988-243396, filed on 12 Sep 1988, now abandoned  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Wilson, Donald R.  
CLMN Number of Claims: 48  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 2154  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB A reaction of **perfluoroolefins** with bis(silyl) ethers to  
produce novel partially fluorinated and perfluorinated copolymers and  
macrocyclic compounds is disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L29 ANSWER 8 OF 13 USPATFULL on STN  
AN 95:90639 USPATFULL  
TI Reaction of **perfluoroolefins** with bis(silyl) ethers to produce  
fluorinated compounds  
IN Farnham, William B., Wilmington, DE, United States  
Nappa, Mario J., Newark, DE, United States  
PA E. I. Du Pont de Nemours and Company, Wilmington, DE, United States  
(U.S. corporation)  
PI US 5457215 19951010  
AI US 1994-270338 19940705 (8)  
RLI Continuation of Ser. No. US 1993-64574, filed on 21 May 1993, now  
abandoned which is a division of Ser. No. US 1991-645030, filed on 23  
Jan 1991, now patented, Pat. No. US 5243025 which is a  
continuation-in-part of Ser. No. US 1988-243396, filed on 12 Sep 1988,  
now abandoned  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Bleutge, John C.; Assistant Examiner: Wilson, D. R.  
CLMN Number of Claims: 7  
ECL Exemplary Claim: 1  
DRWN No Drawings  
LN.CNT 1829  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB A reaction of **perfluoroolefins** with bis(silyl) ethers to  
produce novel partially fluorinated and perfluorinated copolymers and  
macrocyclic compounds is disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L29 ANSWER 9 OF 13 USPATFULL on STN  
AN 93:74407 USPATFULL  
TI Reaction of **perfluoroolefins** with bis(silyl) ethers to produce  
fluorinated compounds  
IN Farnham, William B., Wilmington, DE, United States  
Nappa, Mario J., Newark, DE, United States  
PA E. I. Du Pont de Nemours and Company, Wilmington, DE, United States



(U.S. corporation)  
PI US 5243025 19930907  
AI US 1991-645030 19910123 (7)  
RLI Continuation-in-part of Ser. No. US 1988-243396, filed on 12 Sep 1988,  
now abandoned  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Dean, Jr., Ralph H.  
CLMN Number of Claims: 6  
ECL Exemplary Claim: 3  
DRWN No Drawings  
LN.CNT 1781  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB A reaction of **perfluoroolefins** with bis(silyl) ethers to  
produce novel partially fluorinated and perfluorinated copolymers and  
macrocyclic compounds is disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.